



Oregon

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Mr. Ted McCall
McCall Oil and Chemical Corporation
5480 NW Front Avenue
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RE: DEQ comments for the McCall Oil and Chemical Corporation Remedial Investigation Report-October 2008 and Source Control Evaluation Report-February 2009, ECSI #134.

Dear Mr. McCall:

DEQ appreciates McCall Oil and Chemical's efforts to investigate potential environmental impacts at your site. DEQ has identified several issues that require additional work to allow the site to proceed to a Source Control Decision (SCD). DEQ has completed the review of the Remedial Investigation (RI) and Source Control Evaluation (SCE) Reports for the McCall Oil and Chemical Corporation Site in Portland, Oregon.

The McCall Oil Site is considered a medium priority Portland Harbor Site. The SCE documented exceedences of screening level values (SLV) for Arsenic, and Total Petroleum Hydrocarbons (TPH) for site groundwater and Polychlorinated Biphenyls (PCBs) in stormwater sediment. Because of the SLV exceedences and the SCE's use of alternative screening methods, DEQ cannot support a no-action SCD at this time. Additional site characterization is required to determine what source control measures are necessary or to provide additional support for McCall's no-action proposal.

I have reviewed both reports and have combined the comments into this letter. General comments are provided to summarize observations for a broad set of report issues. Specific comments are discussed for particular sections of the reports. Recommendations for next steps are provided to allow a path forward to a SCD for the site.

General Comments

1. The data presented in the RI/SCE reports indicate data gaps in the SCE. In order to evaluate the site using the Portland Harbor Joint Source Control Strategy (JSCS) and DEQ's Guidance for Evaluating the Stormwater Pathway at Upland Sites, additional information is required before DEQ can support a SCD for the McCall site.
2. PCBs were detected in the three stormwater sediment samples ranging from 30 ppb to 144 ppb. The detection of PCBs requires further investigation. Additional

sediment and stormwater sample collection is recommended to evaluate potential PCB sources and complete the SCE.

3. The Contaminants of Interests (COIs) list should be revised to include all potential contaminants for the site. The following list of constituents should be considered in future site screening for all pathways: Total Petroleum Hydrocarbons (TPH), Benzene, Toluene, Ethyl benzene, Xylenes (BTEX), Metals (Arsenic, Cadmium, Chromium, Copper, Lead, Manganese, Mercury, Nickel, Silver, Zinc), Organochlorine Pesticides, PCBs, Polynuclear Aromatic Hydrocarbons (PAHs) Chlorinated Volatiles, and Semi-Volatiles (including SLV listed Phthalates). The complete list of phthalates, organochlorine pesticides (including DDT), and PCBs are considered COIs based on analytical results of river sediments samples, site history, and onsite stormwater/sediment sampling detections.
4. The characterization of bank surface soils did not include testing for all site COIs. It was limited to analytical testing for Arsenic, Chromium, Copper, Polynuclear Aromatic Hydrocarbons (PAHs), Semivolatiles (including four Phthalates), and TPH as Gas, Diesel, and Oil. The following additional constituents should be included in future site screening: Metals (Cadmium, Lead, Manganese, Mercury, Nickel, Silver, Zinc), Organochlorine Pesticides, PCBs, and Semi-Volatiles (including SLV listed Phthalates). Further investigation and evaluation of erodible river bank soil with the full COIs list is required to complete the SCE.
5. Because of the designation of sediment adjacent to the McCall site as an Area of Potential Concern (AOPC), EPA and the Lower Willamette Group may consider sediment adjacent to the McCall Site to be contaminated with hazardous substances at levels requiring remediation. DEQ does not support the SCE's method of comparison of LWG's near-site sediment data with area wide Portland Harbor sediment mean concentrations for determining whether releases of hazardous substances from this facility poses unacceptable risks or requires source control. It is not clear which sites were included in the calculation of the mean concentrations for a Portland Harbor Heavy Industrial Sites but the rationale for this comparison may be flawed. Many of the Heavy Industrial sites were selected for sampling by the LWG because they were not expected to represent a "typical" uncontaminated Heavy Industrial site and thus could skew the mean concentration trends. DEQ requires that individual samples to be screened against JSCS SLVs and evaluated based on the frequency and magnitude of exceedences.
6. The SCE used mean concentrations for screening. DEQ requires screening to be done using the maximum reported concentration or the 90% Upper Confidence Level (UCL) of the mean if applicable data are available.
7. Individual stormwater and stormwater solids sampling results should be screened in the SCE uniquely for each basin or individual sampling point. Analytical testing should include the full COIs analytical list.

Specific Comments-Remedial Investigation Report

1. Page 21, 4th Paragraph-Portland Harbor baseline sediment concentrations comparison to sediment concentrations is not supported by DEQ (See General Comment #5). The exclusion of constituents detected in river sediment that are not expected to be onsite is not warranted. The presence of the AOPC contaminants adjacent to the site may indicate an unknown source on the site unless determined by onsite data to not be a COIs. Further evaluation is needed to demonstrate complete contaminant migration pathways from upland sources to the river are not complete or are protective of the river (i.e., as described in the JSCS).
2. Page 24-Chlorinated VOCs, TPH, and BETX COIs were evaluated for upland risk but were not included in the SCE. These constituents should be included in the SCE.
3. Page 29-The evaluation of bank soil contamination concentrations to SLVs was performed for only TPH constituents. Bank soils should be evaluated for the full COIs list of constituents then compared to SLVs (See General Comment #4).
4. Page 43, Section 4.6-The section states that risk screening was performed to determine if key contaminant exposure pathways to upland receptors have been sufficiently characterized to support the evaluation of upland SCMs. The SCE only determines if constituents are reaching the river and require SCMs. The evaluation of exposure to upland receptors is a separate analysis.
5. Page 46, Section 4.6.2-The evaluation of construction worker exposure is not considered a “worst-case” scenario, but should be properly referred as a “reasonable maximum future exposure scenario”. The RBCs for total PCBs should be applied to PCB Aroclors. This will allow screening of pathways not included in EPA’s Region 6 Tables.
6. Currently there are EPA regional screening levels that supersede the EPA Region 6 Table (http://www.epa.gov/reg3hscd/risk/human/rb-concentration_table/). This information was not available during the preparation of the report but should be considered in future submittals.
7. Table 8a-The RBCs for construction/excavation workers are incorrect due to a unit conversion error in the DEQ spreadsheet. The correct value is 1,000 times the reported values and therefore the site concentrations are below the RBCs. This error has been corrected in the current DEQ spreadsheet.
8. Table 10a-Screening values for methyl-naphthalene can be obtained from the EPA screening table (http://www.epa.gov/reg3hscd/risk/human/rb-concentration_table/) or a site specific value may be developed for each relevant exposure pathway.
9. Table 10b-PCBs were sampled in three of the four catch basins and were present in moderately elevated concentrations at S-1 and S-3. Additional sampling is needed to characterize the source or sources of PCBs at the site in order to support the evaluation and determine whether SCMs are needed. If future PCB sampling analysis of site sediments and stormwater indicate a significant source (significant exceedences of SLV) then SCMs will be considered.

Specific Comments-Source Control Evaluation Report

1. Page 10-COIs-Several chemicals were omitted without sufficient justification. In particular, PCBs are known site COIs that have not been sufficiently evaluated.
2. Page 15-The report concludes that the site is not considered a source to the river due to the comparison of near-site sediment data with harbor mean concentrations (Appendix B). This screening method is not supported by DEQ. (See General Comment #5).
3. Page 21- The risk screening evaluation process should be consistent with the Portland Harbor JSCS methods. The use of a site wide average is not considered a valid screening approach by DEQ.
4. Page 25-EPA's determination to use the benzo[a]pyrene SLV as a surrogate for other PAHs is the accepted screening value (See General Comment #6).
5. Page 25-DEQ does not concur with the statement that "By complying with NPDES permit limits for oil and grease, it is assumed that petroleum compounds are not causing adverse impacts to the river". Stormwater permits do not necessary protect against all exposures identified in the JSCS. TPH and BTEX are COIs for the site and DEQ requires that they be evaluated using JSCS methods. NPDES testing results may be included in the weight of evidence evaluation but are not sufficient alone to evaluate impact to the river and sediment.
6. Page 29-The list of COIs needs to include phthalates and pesticides. As a policy, DEQ expects all sites to include phthalates in their screening evaluations because of the ubiquitous nature and low level of understanding about potential sources. DDT compounds are elevated in river sediments adjacent to the site and DEQ will need data to support a determination that this site is not an ongoing source of these contaminants.
7. Page 32-DEQ does not support the use of site-wide average concentrations in a source control screening evaluation because it could mask localized site sources that could be controlled with SCMs such as improved stormwater best management practices (See General Comment #5).
8. Table 3-A comparison of site data with upstream and downstream data is not supported by DEQ because of the uncertainty of sediment transport associated with the sample locations. The presence of docks, localized eddies, and sediment movement during ship traffic makes the clear identification of upstream and downstream sample identifications problematic.
9. Table 5 and 6-Aquatic Life Criteria for all phthalates should be 3 ug/L. For water ingestion the screening values that are based on PRGs should be included. The JSCS SLV for arsenic is 0.045 ug/L based on a tap water PRG. The SLVs for carcinogenic PAHs (provided in Table 3.1 of the JSCS) are 0.018 ug/L and for noncarcinogenic the SLV is 0.2 ug/L. Units for Miscellaneous Semi-Volatiles and PCBs should be provided. The JSCS screening value for fish consumption used in the report (17.5 g/day) is out of date. The Portland Harbor SLV for fish consumption should be based on 175 g/day and was adopted by the Oregon

Environmental Quality Commission in October 2008. As previously stated, the mean site wide concentration of constituents is not supported by DEQ for the SCE and should be dropped from the table.

10. Table 11-The comparison of site data to screening levels should be made on an individual sample basis not a site wide average. The comparison of data from other contaminated sites is not appropriate for screening because other sites are likely to also be contaminated. The use of background levels for screening is appropriate only if the levels are established and directly applicable to the facility and media. Otherwise the information should only be used in general terms as part of the weight-of-evidence evaluation discussed in DEQ guidance documents.
11. An evaluation of groundwater infiltration to the stormwater system was not preformed. This pathway should be evaluated and discussed.
12. Page 29, Section 5.5-The evaluation of bank soils pathway is not complete. The COIs analyzed for are not sufficient for demonstrating this pathway in not a concern. Several significant COIs are absent from the soil analysis (See General Comment #4). Additional evaluation of this pathway is required.
13. Page 30 Section 5-The effectiveness of stormwater SCMs based on the statistical analysis of NPDES data for the past 10 years is not supported. A tabulation of NPDES data including TSS and implementation dates and descriptions of SCMs would better support their effectiveness.
14. Page 33-DEQ disagrees with the groundwater loading analysis used for arsenic as a screening tool for this contaminant. The mean concentration value used (26 ppm) and saturated thickness (10-feet) are not considered by DEQ to be representative of site conditions. DEQ typically requires screening to be done using the maximum reported concentration or a 90% Upper Confidence Level (UCL) of the mean if applicable data is available. DEQ believes the saturated thickness should be increased to include both fill and alluvial deposits. A more clear understanding of the nature and extent of arsenic groundwater contamination is required to evaluate this pathway.
15. Page 33-The potential for TPH contamination to produce reducing conditions which may be mobilizing arsenic into groundwater should be discussed. The evaluation should use the JSCS guidance to develop a conceptual site model and determine if SCMs shall be considered.

Next Steps

Representatives from McCall Oil and DEQ should meet to discuss these issues and their resolution. In summary, DEQ believes that the following information should be considered to allow completion of a SCD for the site:

- COIs List

DEQ requests that the following list of constituents should be considered in future site screenings for all pathways: TPH, BTEX, Metals (Arsenic, Cadmium, Chromium, Copper, Lead, Manganese, Mercury, Nickel, Silver, Zinc), Organochlorine Pesticides,

PCBs, PAHs, Chlorinated Volatiles, and Semi-Volatiles (including SLV listed Phthalates). Ensure the laboratory is directed to use sample cleanup methods. This can help ensure that matrix interferences do not result in MRLs greater than appropriate JSCS SLVs. Reporting of PCBs should include both total PCBs and individual aroclors. Laboratory PCB detection limits for comparison to SLVs should be less than 10-20 ppb for soil/sediments and less than 0.05 ppb for stormwater. A COIs table should be developed that includes the COIs laboratory method reporting limits compared to SLVs. The exclusion of specific testing for pathway specific COIs needs to be reviewed and approved by DEQ.

- Stormwater Drainage Map Development

As part of the SCE, more detailed maps should be produced with outlines of each drainage basin/sub basin using arrows to indicate the direction of stormwater flow. Use colors and/or shading to differentiate drainage areas and pervious/impervious surfaces. The new maps should contain the existing storm water configuration and also depict any recent or planned changes to the system (e.g., closures of inlets or changes in stormwater management). An evaluation of potential PCB sources should be provided for each drainage basin along with an evaluation of stormwater flow patterns to determine catch and catch basin soil sample point selections.

- Stormwater Sediment and Surficial Soil Sampling

Due to the detections of PCBs in stormwater sediment additional sampling of stormwater solids and surficial soil is required. Stormwater solids and surficial soils including river bank surficial soil sampling points should be selected to evaluate previous PCB detections and address other site COIs data gaps. Sediment samples should include all COIs in addition to PCBs. An erodable soil evaluation work plan for the river bank and stormwater sediment sampling should be developed and submitted for DEQ approval.

- Stormwater Sampling

A minimum of two stormwater sampling events should be performed (minimum of one first flush and one representative storm event) for locations S-1 through S-4. Stormwater samples should be analyzed for the full COIs list. Additional stormwater sampling locations may be required based on the results of the stormwater sediment sample screenings and stormwater map development. Stormwater sampling locations should be approved by DEQ.

- Perform an Evaluation of Groundwater Infiltration to Stormwater System and Utilities.

- Evaluate Groundwater Pathway for Arsenic and TPH

Evaluate the groundwater pathway for arsenic and TPH to determine what additional information is required. Groundwater sampled from shoreline monitoring wells EX-2 and EX-3 had maximum detections of dissolved arsenic at 72 ppb and 90 ppb respectively. It is unclear what is causing these exceedences. These arsenic detections significantly exceed screening values and DEQ considers these detections to be a

potential groundwater hotspot. However, the arsenic detection is based on only two sampling events and additional groundwater sampling should be considered for the evaluation. The evaluation should use the JSCS screening guidance to completely develop a conceptual site model and determine if SCMs need to be considered.

The relationship between TPH and associated reducing conditions that may be mobilizing dissolved arsenic should be evaluated. The Portland Harbor TPH SLV for groundwater to the surface water pathway is 1 ppm.

- RI and SCE Reports

The RI and SCE evaluation reports should be resubmitted after the additional site screening is completed. Work plans for additional site screening should be developed and SCMs should be implemented, if needed.

Please call (503) 229-5039, if you have questions.

Sincerely,

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